

Problem Set 1a—Key
CEEG 340—Introduction to Environmental Engineering
Instructor: Deborah Sills
Fall 2016

Questions

1. Go to the course website, read the syllabus, and answer the following questions briefly:

- (a) **(1 pt)** What is the attendance policy for this course? *Attendance for lectures is strongly encouraged, and it contributes to the participation and professionalism part of your grade; attendance for labs is mandatory.*
- (b) **(1 pt)** **What might happen if you skip a lot of classes.**
You might not do well in the course, and may even receive a failing final grade.
- (c) **(1 pt)** What time are problems sets due? How are they submitted?
Problems sets are submitted as hard copies and are due at the beginning of class.
- (d) **(1 pt)** Are quizzes all announced? *No.*
- (e) **(1 pt)** It's a week before an assignment is due and you realize that you have three assignments due on that same day. What should you do?
Contact Prof. Sills, or bring it up in or after class.
- (f) **(1 pt)** What is the late homework policy for this course? *Late homework may be submitted up 24 h after the due date, and it incurs a grade reduction of 20%.*
- (g) **(1 pt)** Where is Prof. Sills's office? *215 Dana*
- (h) **(1 pt)** What do you do if you have a question but you can't make it to any of Prof Sills' office hours. *Email her or stop by her office.*
- (i) Can you use a laptop in class if you need it because you don't see well? **Yes!**
- (j) **(1 pt)** What is the most convenient day and time for you to attend office hours?
Any reasonable answer is acceptable.

2. **(20 pt)** Choose two events (at least one should be categorized as “Government”) along the timeline of ‘critical events’ in Fig. 1.3 on p. 7 of the textbook. Write a short summary of each event (100–200 words). In your summary, *address at least two of the following questions*:
- (a) How did the event impact society?
 - (b) How did the event impact the environment?
 - (c) What caused the event to occur (e.g., demand from people, scientific evidence, political movement, etc.)?
 - (d) Did the event improve people’s lives or the environment?

EXAMPLE ANSWER: The Clean Water Act (CWA), as established in 1972, set water quality standards for pollutants and their discharges into surface water. For example, wastewater treatment plants are regulated to discharge effluents with maximum concentrations of 30 mg/L for biological oxygen demand (BOD) and total suspended solids (TSS) (often referred to as the “30/30 rule”). In addition the act allowed EPA to provide funds for construction of wastewater treatment plants. In many ways this act is a success. The Cayahoga River is not on fire, and many large rivers that flow in urban areas are now clean and healthy. Unfortunately the CWA does not regulate non-point source pollution, including Agricultural wastes, and we currently face overloads of nutrients (nitrogen and phosphorous) which lead to algal blooms and deoxygenated dead zones. The Chesapeake Bay is an example of an area that benefited from the CWA but is now under stress due to nutrient pollution from agriculture.

3. **(10 pts)** Adapted from Question 1.5 in the text

Research and describe the progress that that one country has made in meeting the following **UN SDGs**: Number 6 (Availability and sustainable management of water and sanitation). Focus on a country from the developing south (e.g., in Africa, Central America, Asia). If you cannot find quantitative information on the new SDGs, describe progress made on the older **UN MDGs**: Number 7 (Environmental sustainability).

The Millennium Development Indicator’s website has country and regional snap shot tables For each of the goals and indicators

(<http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Data/snapshots>).

*A summary of the progress made in **Mali** (in 2013) is described below:*

MDG Goal 7: Environmental Sustainability. Target: Halve the proportion of people without access to an improved drinking water source. In 1990 28% of people had access to an improved water source, and in 2010, 66% of people had access to an improved water source. According to these numbers, the target was achieved, but later this semester we’ll learn that an “improved” water source is not necessarily a “safe” water sources.

4. **(10 points)** Adapted from Question 1.3 in the text

Identify two definitions of sustainability from two sources (e.g., government, industry, environmental organization, financial or investment organization). Compare and contrast these definitions to the Brundtland Commission definition (described in the text).

Any reasonable answer is acceptable.

